The Commonwealth of Massachusetts Sustainable Design Roundtable

The Problem

The design, construction and renovation of buildings cause a variety of environmental and economic impacts, nationally and globally. Buildings are a major source of air pollution and greenhouse gas emissions. Nationally, buildings account for about half of all sulfur dioxide emissions, about a quarter of nitrous oxide emissions and 10% of particulate emissions, as well as 35% of carbon dioxide emissions, the chief pollutant believed to cause climate change. Moreover, buildings use 1/3 of all the energy consumed in the United States and 2/3 of all electricity generated. Building construction generates 136 million tons of waste per year in the United States and buildings account for one-quarter of the world's wood harvest. The United States has more than 80 million buildings and is projected to construct another 38 million buildings by 2010.

Incorporating environmentally sustainable practices into building construction and renovations, such as increasing energy and water conservation measures, using environmentally preferable building materials, developing construction waste management plans, expanding recycling programs and investigating green landscaping techniques, can greatly reduce the environmental and public health impacts of our buildings.

While benefits of sustainable buildings include a significant reduction in environmental and health impacts, as well as potential long-term operational cost reductions, there are still a number of important barriers preventing widespread adoption of sustainable building standards. In a one day meeting held in 2002 of over 50 public and private professionals involved in the design and construction of buildings, a number of key barriers to successful green buildings in public projects were identified. For a report on this meeting, go to www.mass.gov/envir/Sustainable and click on "Resources." The barriers documented by this group included a lack of: education and training, incentives, leadership, standards and measurement, a conducive bidding and awarding process, and first cost vs. operating cost issues.

Status of Sustainable Design and Construction within Massachusetts

There is growing interest in Massachusetts for public construction projects to be considered "green" by using sustainable design and construction principles, especially since the development of Leadership in Energy and Environmental Design (LEED) guidelines by the US Green Building Council in 2000. Ranked sixth nationally in the number of green design and construction projects, Massachusetts has seven certified LEED buildings and 73 LEED registered projects.

There are many opportunities to promote sustainable design as the Commonwealth funds, plans and manages a wide variety of public projects from schools, hospitals, and office buildings to colleges, prisons, courthouses, park facilities and affordable housing. The Division of Capital Asset Management (DCAM), the state's primary vertical construction agency, has been working to incorporate sustainable design techniques into state funded buildings. DCAM is making strides toward the standardization of sustainable design in all its projects and has begun to consider LEED certification for many projects.

Other state agencies are also involved in public construction. The Commonwealth finances $ 120 million worth of affordable public and private housing projects annually and subsidizes 50,000 state assisted units. The Massachusetts Environmental Policy Act Office (MEPA) has the opportunity to comment on all public and private projects as part of its environmental review process. Quasi-state authorities like Massport and the new School Building Assistance Authority are responsible for financing and managing billions of dollars worth of public construction. The Massachusetts Technology Collaborative (MTC), a quasi-state economic development agency that oversees the MA Renewable Energy Trust Fund, provides funding for feasibility studies and design and construction assistance for green buildings and green schools.

Massachusetts is clearly in a position to serve as a leader in sustainable construction projects as the state owns over 5,000 buildings, covering 92 million square feet of space, and spends over $300 million annually on construction and renovation projects each year.

Planning for the Sustainable Design Roundtable

As part of larger efforts to promote sustainability and sound environmental policy, the Commonwealth of Massachusetts is exploring ways in which state actions, activities and programs can better incorporate sustainable design practices into public building construction projects, whenever possible. To initiate this effort, the Executive Office of Environmental Affairs (EOEA), in collaboration with DCAM and MTC, is coordinating establishment of a Sustainable Design Roundtable to foster and promote dialogue about green buildings between the public and private sectors.

The Sustainable Design Roundtable will promote in-depth discussions between those responsible for funding, planning and managing public construction and those who bid to design and construct them. A central purpose of the Roundtable will be to develop recommendations on key barriers that are impeding successful green building efforts.

The Roundtable will meet periodically beginning in January 2005 and will include representatives of public and quasi-public agencies, as well as design and construction professionals from the private sector. Non-profit organizations will also be included based on their expertise.

After the initial meeting, the Roundtable will divide into several working groups that will focus on examining the barriers identified as the most critical. The barriers identified in a similar Roundtable session two years ago will be a starting point for the investigation. Working groups will meet periodically to study specific barriers in state construction projects and make recommendations. At the same time, consultants will be hired to do studies and analyze data on public projects to further support the existence of the barriers and strategies.

Funding for the Roundtable process was provided by the MTC Renewable Energy Trust, allowing for the hiring of a Sustainable Design Research Coordinator to manage the Roundtable process. MTC funding will also be used to solicit the several consultant studies.

Research findings will be used to help formulate recommendations on how to best promote effective sustainable design strategies in publicly funded buildings and to develop suggestions on the most effective timetable for action to address barriers. These recommendations and a schedule for their implementation will be published in a report issued by the Roundtable, the Secretary of EOEA and the Commissioner of DCAM.

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